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IDAHO DISEASE Bulletin

IDAHO DEPARTMENT OF HEALTH & WELFARE

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Tuberculosis and Travel:
lessons from the recent international incident

The recent uproar over the patient with suspected extensively drug-resistant tuberculosis (XDR-TB) has increased awareness about the risks of TB and travel. This situation was unusual because of concern over the drug-resistant strain that was initially diagnosed, but international travelers with TB are not uncommon, due to the increasing frequency of travel in general. General guidance on TB and air travel was published by the World Health Organization (WHO) in 2006. Following is a brief review of some of the recent cases and some major points from the WHO guidance.

XDR-TB is defined as a subtype of multidrug-resistant TB (i.e. an isolate resistant to at least isoniazid and rifampin), with additional resistance to a fluoroquinolone and an injectable agent [amikacin, kanamycin, or capreomycin]. XDR-TB is rarely reported in the U.S., but has increased worldwide.

Ultimately, after further testing this case was determined to be a multidrug-resistant strain, not XDR-TB, but some of the issues brought to light by this case are relevant to all cases of TB.

It can be challenging to know when to allow persons with TB to travel. In Idaho, we have taken a conservative stance, following the WHO guidelines or even being more restrictive if there is any question as to the infectious status of a patient.

Some points from WHO:

- Since medical clearances for immigrants seeking to enter the U.S. may be valid for up to one year after clearance is obtained, a person could develop infectious TB in the period elapsing between the medical examination and travel.
- To date, no case of active TB has been identified as a result of exposure on a commercial aircraft, although some cases of latent infection have been documented following air travel.
- From 1992 to 1994, the CDC, together with state and local health departments, conducted seven contact investigations, one centered on a cabin crew member and six on passengers with infectious TB who had flown during this period. Significant findings included:
- The number of potentially exposed passengers and cabin crew exceeded 2600 on a total of 191 flights involving nine different types of aircraft. All index patients were highly infectious, i.e. smears from spontaneous sputum specimens from all index cases were heavily positive for acid-fast bacilli (AFB) and all patients were culture-positive and had evidence of extensive pulmonary disease on chest radiography. One patient also had biopsy and culture-confirmed laryngeal TB.

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- In two instances, patients had multidrug-resistant tuberculosis (MDR-TB). Organisms isolated from the other patients were sensitive to all anti-TB drugs.
- In only two of the investigations was there evidence to suggest transmission of M. tuberculosis infection: one from a cabin crew member to other crew members, and another from a passenger to other passengers. In the first report, evidence of transmission was limited to cabin crew with at least 12 hours' exposure to the infectious source. In the other, transmission of infection occurred to only a few passengers seated in the same section as and in close proximity to the passenger with infectious TB, and only on one flight lasting more than 8 hours.
- Boarding can and should be denied to individuals known to have an infectious form of TB.
- When a physician is aware that a person with an infectious form of TB is planning to travel on a commercial carrier, he or she should inform the public health authority who in turn should inform the airline concerned.
- Denying boarding to all TB patients under treatment would not be justified. The majority of TB cases become non-infectious after two weeks of adequate treatment.

Notably, in the WHO guidelines, two weeks of therapy would be enough in many cases to allow air travel. In Idaho, we generally require a patient to document noninfectiousness, in addition to having received two weeks of treatment, by the following criteria: patient has a negligible likelihood of MDR-TB is receiving standard multidrug antituberculosis therapy, has demonstrated clinical improvement, and has had three consecutive AFB-negative smear results of sputum specimens collected 8 to 24 hours apart. For persons with MDR-TB, infectiousness is determined on a case-by-case basis, but generally is more stringent, including negative cultures.

If you are managing a patient with TB or suspected TB and believe the patient traveled, or has intent to travel on any commercial conveyance, please notify your Health District's or Division of Health's TB control staff. The health department staff will work with the patient to determine whether any previous travel potentially exposed others, and whether travel is now safe. Idaho law does allow an order of isolation to be issued if there is reason to believe the patient is a threat to the public's health.

The full WHO guidelines are available at:
http://whqlibdoc.who.int/hq/2006/WHO_HTM_TB_2006.363_eng.pdf

Action underway to stem the rise of gonorrhea and chlamydia in Idaho

Gonorrhea and chlamydia are leading causes of Pelvic Inflammatory Disease (PID), a major cause of infertility. While rates of gonorrhea and chlamydia in Idaho are currently below national rates, they have been increasing here (Figures 1, 2) and in the West. Reported Idaho incidence rates in the last 5 years (2002-2006) have increased by 25% percent for chlamydia (186.6 to 274.6 per 100,000) and 105% percent for gonorrhea (7.0 to 16.8 per 100,000).

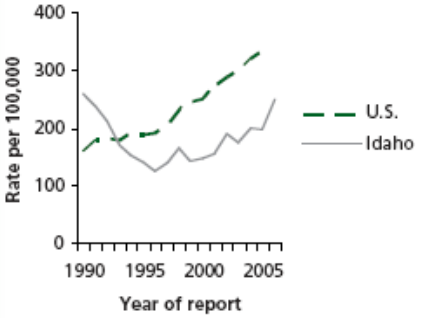

Figure 1. Reported chlamydia incidence rate—U.S. and Idaho, 1990–2006

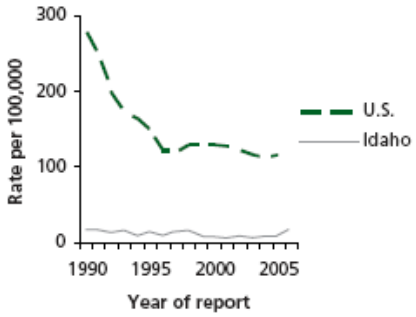

Figure 2. Reported gonorrhea incidence rate—U.S. and Idaho, 1990–2006

Due to alarming increases in the reported incidence rates of these sexually transmitted diseases (STD), Office of Epidemiology Food Protection (OEFP) is recommending clinicians review the recommended treatment regimens, screening practices including re-screening for re-infection, and partner treatment strategies. CDC has released updated STD treatment guidelines in 2006 , and in April, updated the recommended regimen for gonorrhea to exclude the use of fluoroquinolones because of widespread antibiotic resistance.

Effective clinical management of patients with treatable STD requires treatment of the patients' recent sex partners to prevent reinfection and curtail further transmission. For patients whose partners' treatment cannot be ensured or is unlikely, delivery of antibiotic therapy via prescription to their partners is an option. Providing antibiotic prescriptions for chlamydia or gonorrhea for a patient's sex partners without requiring a visit, sometimes referred to as expedited partner therapy (EPT), has been shown to reduce re-infection and is endorsed by the Centers for Disease Control and Prevention (CDC) and the American Medical Association.

This appears to be a practice sometimes used in Idaho, but not by all providers. Representatives from the Idaho Board of Medicine and the Idaho Board of Pharmacy have stated they do not believe there are any Idaho rules forbidding this practice. Use of this approach should always be accompanied by efforts to educate partners about symptoms and to encourage partners to seek clinical evaluation.

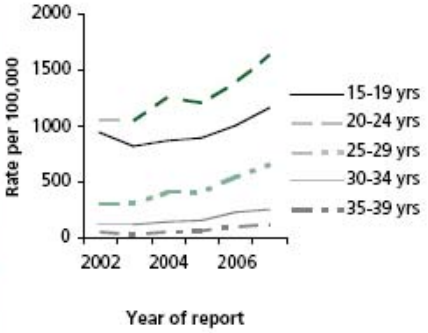

Figure 3. Reported chlamydia incidence rate by selected age group—Idaho, 2002–2007 (YTD)

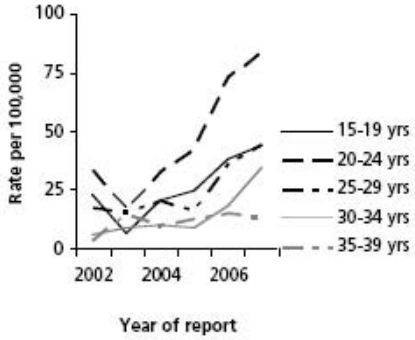

Figure 4. Reported gonorrhea incidence rate by selected age group—Idaho, 2002–2007 (YTD)

A tool patients may use to inform partners of their potential exposure is an Internet-based service which allows patients to send anonymous email using www.InSPOT.org/idaho. To avoid misuse, the InSPOT website will not be advertised; therefore, it is imperative providers inform clients about InSPOT, especially in cases where the patient knows only a screen name or email address of sex partners.

Appropriate screening can detect asymptomatic infections for which patients may not normally seek medical attention. It is recommended sexually active women aged 15-24 years be screened annually for chlamydia; others and candidates for gonorrhea screening should be selected based on risk and local epidemiology. History of previous infection, other sexually transmitted infections, new or multiple sexual partners, inconsistent condom use, sex work, and drug use are risks for gonorrhea. Local epidemiology is outlined in following paragraphs.

Because of annual screening of women 15-24 years, chlamydia infections are reported more often among women than men (3:1 during 2000-2006). Annual screening is not a universal recommendation for gonorrhea; the ratio of females to males is 1:1 during the same time period.

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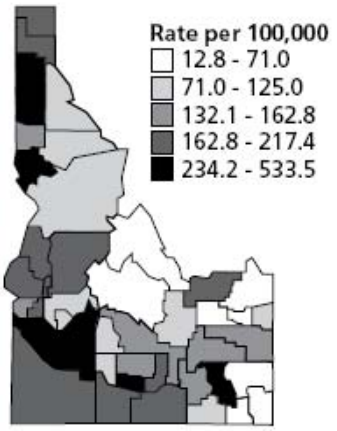

Figure 5: Reported Chlamydia incidence rate by county—Idaho, 2006

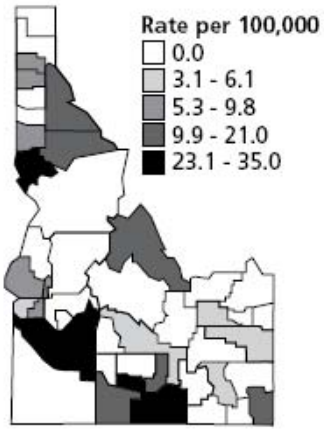

Figure 6: Reported gonorrhea incidence rate by county—Idaho, 2006

Reported chlamydia and gonorrhea incidence rates are highest in the 20-24 year age group overall and are increasing relatively more sharply in recent years compared with other age groups (Figures 3, 4). Chlamydia rates were highest in South and Southwest Idaho and in parts of Northern Idaho (Figure 5) in 2006; gonorrhea 'hot spots' existed in many of these same areas (Figure 6).

Data on persons tested in public health clinics reveal an overall positivity of 7.5% on over 16,000 tests in 2006 (for male and female visits). With regard to patient history, high percent-positive chlamydia specimens were collected from those who were a contact to chlamydia (31.4%), had gonorrhea (history of repeat GC 14.8%, GC this visit 19.0%), had ≥ 2 sex partners in the last 60 days (10.0%), had sex for money or drugs (7.5%), intravenous drug users (IDU) (7.4%), or sexual contacts of IDU (7.3%). High percent-positive chlamydia was also observed in specimens from patients with symptomatic partners (17.1%).

In calendar year 2006, gonorrhea positivity at public health clinics was 0.5% on over 11,716 specimens. Higher than average percent positive was observed in specimens from patients with a symptomatic partner (0.6%), with repeat infection (10.0%), reported having sex for money (2.4%), who were men having sex with men (MSM) (2.2%), who were IDU (1.1%), who had another STD in the last 12 months (1.1%), with a new sex partner in the last 60 days (0.8%), or who were pregnant (0.7%).

While chlamydia and gonorrhea rates are low in Idaho compared with the national rate, the recent rise is very concerning. The Division of Health recommends careful screening, treatment as outlined in the 2006 treatment guidelines and avoidance of fluoroquinolones for gonorrhea, and effective public health interventions including consideration of expedited partner therapy to reduce risk of re-infection.

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